KOROTKOV, P.I.

Obtaining a wide variety of lubricating oils from eastern sulfurous petroleums. Neftianik 1 no.9:3-5 S '56.   (MLRA 9:11)

1. Zamestitel' glavnogo inshenera Novokuybyshevskogo neftepererabatyvayushchego zavoda.
            (Lubrication and lubricants)

Korotkov, P.I.

15(5)   PHASE I BOOK EXPLOITATION   SOV/3056

Al'tshuler, Anatoliy Yevgen'yevich, Petr Ivanovich Korotkov, Vasiliy
    Leonidovich Kazanskiy, and Nikolay Mikhaylovich Gerasimenko

Proizvodstvo smazochnykh masel iz sernistykh neftey (Producing Lubricating
    Oils From Sulfurous Crudes) Moscow, Gostoptekhizdat,
    1959. 189 p. Errata slip inserted. 4,200 copies printed.

Eds.: B. I. Bondarenko and I. P. Lukashevich; Exec. Ed.: T. D. Yefremova;
    Tech. Ed.: E. A. Mukhina.

PURPOSE: This book is intended for refinery operators and workmen engaged in
    lubricating oil production. It may also be used as textbook for training
    refinery operators.

COVERAGE: The book reviews various methods used for refining lube oils. It
    indicates those properties of crudes most suitable for lubricating oil pro-
    duction. Main features of distillation and fractionation are discussed and
    the flow scheme of an atmospheric-vacuum pipe still explained. Propane
    de-asphalting and the unit used for this purpose are outlined. Selective

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Producing Lubricating Oils (Cont.)   SOV/3056

solvent treatment and deparaffinization with acetone-benzene-toluene solution
are analyzed. The use of bleaching earth and results of contact treatment of
oil are reviewed. The author also explains how various units used for lube
oil production are put on and taken off stream. The procedure of overhauling
a processing unit and its various apparatus is explained and the safety tech-
niques to be observed in a refinery producing lubricating oil are analyzed.
There are 12 Soviet references

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Producing Lubricating Oils (Cont.)

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Producing Lubricating Oils (Cont.)

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DRUZHININA, A.V.; KOROTKOV, P.I.; FILIPPOV, V.F.

Highly effective anticorrosive properties of motor oils from
sulfur-bearing crudes. Khim.sera-i azotorg.soed.sod.v neft.i nefteprod.
3:487-490 '60.
(MIRA 14:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke
nefti i gaza i polucheniyu iskusstvennogo zhidkogo topliva.
(Mineral oils—Additives) (Corrosion and anticorrosives)

H.4700

41839
S/262/62/000/004/017/024
I014/I252

AUTHORS: Druzhinina, A. V. Korotkov, P. I. and Filippov, V. F.

TITLE: High anticorrosive properties of engine oils from sulfureous crude oils.

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk. 42. Silovyye ustanovki, no. 4, 1962, 62, abstract
              42.4.375. In collection Khimiya sera-i azotorgan. soyedineniy, soderzhashchikhsya v
              neftyakh i nefteproduktakh, v. 3, Ufa, 1960, 487–490)

TEXT: An experimental investigation of the ЦИАТИМ–339 (TsIATIM–339 k) (barium alkyl phenolate)
admixture in the ИТ–93 (IT–93), ЯАЗ–204 (YaAZ–204) and КД–35(KD–35) engines is reported. It is
prepared from the same reagents (except for sulfur chloride) as the TsIATIM–339 admixture. For oils of
sulfureous origin, the Ц–339 k (Ts–339 k) admixture without the anticorrosive sulfur constituent-containing
can be used like Ts–339. Industrial application of the former permits considerable simplification of the
production technology of admixtures for oils of sulfureous origin and indicates a new trend regarding this
composition. The ДСП–11 (DSP–11) and ДСП–8 (DSP–8) oils containing this admixture comply with
ГОСТ (GOST) standard specifications with respect to all parameters. There are 5 tables and 4 references.

[Abstracter's note: Complete translation.]

Card 1/1

VENGLINSKIY, R.Ye., KOROTKOV, P.Ya.

Improvement ofprecision repreductive work in the Ukrainian Aerial Geodetic Institute. Geed. i kart. no.1:66-68 Mr '56.   (MIRA 9:10)
(Ukraine--Cartegraphy) (Ukraine--Gcadeey)

KOROTKOV, P.Ya.; PLUZHNIK, A.P.

Work practices of draftsman V.F.Perunova. Geod.i kart.no.2:66-68
Ap '56.   (Cartography)   (MLRA 9:10)

KOROTKOV, R.A.

Precision casting methods in small-batch and test production.
Alium. splavy no.1:202-209 '63.   (MIRA 16:11)

KOROTKOV, R.P., gornyy insh.

Determining the economically effective length of longwalls
for deep mines. Ugol' Ukr. 3 no.10:41-42 0 '59.
(MIRA 13:2)

1. Khar'kovskiy gornyy institut.
    (Coal mines and mining--Costs) (Mine ventilation)

KOROTKOV, R.P., gornyy inzhener

Change in the relative humidity of the air and determination of the average cooling time in development workings. Trudy Sem.po gor.teplotekh. no.3:65-70 '61. (MIRA 15:4)

1. Khar'kovskiy gornyy institut.
                (Mine ventilation)

KARPUKHIN, V.D., dotsent, kand.tekhn.nauk; KOROTKOV, R.P.; MEDVEDEV, G.V.

Photoluminescent analysis of a study of the effectiveness of preliminary wetting of a coal massif. Bor'ba s sil. 5:72-78 '62.
(MIRA 16:5)

1. Khar'kovskiy gornyy institut.
              (Mine dusts—Prevention)

KARPUKHIN, V.D.; KOROTKOV, R.P.; MEDVEDEV, G.V.

Using photoluminescence analysis to study the distribution
of water in a coal massif on injecting it into the seam.
Nauch. trudy KHGI 11:37-44 '62.   (MIRA 16:11)

1. KOROTKOV, S.

2. USSR   (600)

4. Wheat

7. Abudant harvests of spring wheat. Kolkh.proizv. 12 no.10, 1952.

9. <u>Monthly</u> <u>List</u> <u>of</u> <u>Russian</u> <u>Accessions</u>, Library of Congress, __January__ 1953, Unclassified.

ZHIVITSA, I.; KOROTKOV, S.; SHARDANOV, A.

"Initial formation pressure in oil and gas fields" by B.A.
Tkhostov. Reviewed by I. Zhivitsa. S. Korotkov. A. Shardanov.
Geol. nefti i gaza 5 no.10:64, 3 of cover 0 '61.   (MIRA 14:9)
        (Petroleum geology)   (Gas, Natural—Geology)
                    (Tkhostov, B.A.)

KOROTKOV, S., kand.tekhn.nauk; KOSKIN, Ye., inzh.

Testing the solidity of concrete by ultrasonics. Na stroi.Ros.
3 no.8:29-30 Ag '62.   (MIRA 15:12)
              (Concrete—Testing)   (Ultrasonic testing)

KOROTKOV, S.F., Cand Phys-Math Sci—(diss) "Certain hydrodynamic
problems of filtration of fluids ~~with the computation of~~ *taking into account* phase penetra-
bility." Kazan', 1958. 8 pp (Min of Higher Education USSR. Kazan'
Order of Labor Red Banner State U im V.I. Ul'yanov-(Lenin), 150 copies
(KL,30-58,122)

-10-

KOROTKOV, S.F.

Using methods of linear programming for solving some economic
problems of petroleum production. Nauch.-tekh. sbor. po dob.
nefti no.16:73-78 '62.   (MIRA 15:9)

1. Kazanskiy filial AN SSSR.
(Oil field flooding)

KOROTKOV, S.F.

Relative efficiency of methods of edge water and contour flooding.
Izv. Kazan. fil. AN SSSR. Ser. fiz.-mat. i tekh. nauk. no. 15:13-19
'62.   (MIRA 17:7)

1. Fiziko-tekhnicheskiy institut Kazanskogo filiala AN SSSR.

KOROTKOV, S.F.; KHALITOV, N.T.

Application of quadratic programming to one particular problem in the efficient development of a flooded field. Izv. vys. ucheb. zav.; neft' i gaz. 8 no.5:39-42 '65.   (MIRA 18:7)

1. Kazanskiy gosudarstvennyy universitet i Kazanskiy fiziko-tekhnicheskiy institut AN SSSR.

KOROTKOV, Sergey Ksenofontovich, Geroy Sotsialisticheskogo Truda; PROKOP'YE-
VICH, Izheyev Mikhail; IGNAT'YEV, V.I., red.; IVANOVA, L.I., tekhn.
red.

[Hymn to corn] Gimn kukuruze. Cheboksary, Chuvashskoe gos. izd-vo,
1961.   39 p.   (MIRA 14:7)

1. Deputat Verkhovnogo Soveta SSSR, Predsedatel' kolkhoza imeni Leni-
na Vurnarskogo rayona (for Korotkov)
                          (Corn (Maize))

KOROTKOV, S.F.; KHALITOV, N.T.

Concerning an optimum maximal recovery method for use in a
water-producing field. Izv.vys.ucheb.zav.; neft' i gaz 5
no.4:47-53 '62.   (MIRA 16:1)

1. Kazanskiy gosudarstvennyy universitet imeni Ul'yanova-
Lenina, Kazanskiy filial AN SSSR.
                        (Oil field flooding)

KOROTKOV, Sergey Ksenofontovich,_ Dvazhdy Geroy Sotsialisticheskogo
    Truda; BUBENSHCHIKOV, S., red.; SEMENOVA, O., tekhn.red.

    [Light over Kol'tsovka] Svet nad Kol'tsovkoi. Zapisal
    S.S.Danilin. Moskva, Gospolitizdat, 1963.   119 p.
                                                (MIRA 16:5)
    1. Predsedatel' kolkhoza imeni V.I.Lenina Chuvashskoy
    ASSR (for Korotkov).
                (Collective farms--Management)

S/051/62/013/001/002/019
E039/E420

AUTHORS: Neporent, B.S., Bakhshiyev, N.G., Lavrov, V.A.
            Korotkov, S.M.

TITLE: The effect of medium on the properties of the
            electronic spectra of complex molecules during the
            gradual transition from vapour to solution

PERIODICAL: Optika i spektroskopiya, v.13, no.1, 1962, 32-42

TEXT: The position and width of absorption and fluorescent spectra
in 3-methylaminophthalimide are examined with change in
concentration of ether in the range from 0 to $.58 \times 10^{20}$
molecules/cm^3 during the transition from vapour to the liquid
phase, i.e. 220 $\longrightarrow$ 20 °C.   It is shown that all the spectral
characteristics investigated change monotonically with
concentration of ether and that there is no sudden change during
the phase transition in the solvent.   The results are fully
tabulated and are also shown graphically.   The dielectric
constant changes from 1.0 at 220 °C to 4.3 at 20 °C while the
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The effect of medium ...

refractive index changes from 1.0 to 1.355. The peak of the absorption spectrum is displaced from $26.8 \times 10^{-3} cm^{-1}$ at 220°C to $25.2 \times 10^{-3} cm^{-1}$ at 20°C and the peak of the fluorescent spectrum is displaced from $23.0 \times 10^{-3} cm^{-1}$ to $21.1 \times 10^{-3} cm^{-1}$ for the same temperatures. The change in position and intensity of the absorption and fluorescent spectra is found to be in quantitative agreement with theory based on the assumption of internal fields. The dependence of the transition probability on temperature is determined with and without radiation and the intramolecular nature of the fluorescence extinction temperature is established. An estimate is made of the transfer of vibrational energy on collision between excited molecules and ether molecules. The accommmodation coefficient is estimated to be 0.1 and the duration of collisions 3×10^{-11} sec. There are 7 figures and 1 table.

SUBMITTED: May 18, 1961

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L 18736-63   EPF(c)/EWT(1)/EWT(m)/BDS   AFFTC/ASD/ESD-3/LJP(C)/SSD   Pr-4
ACCESSION NR: AT3002194   RM/WW/MAY   S/2941/63/001/000/0051/0057

AUTHORS: Klochkov, V. P.; Korotkov, S. M.

TITLE: Temperature dependence of quantum yield of fluorescence

SOURCE: Optika i spektroskopiya; sbornik statey. v. 1: Lyuminestsentsiya.
Moscow, Izd-vo AN SSSR, 1963, 51-57

TOPIC TAGS: fluorescence, quantum yield, transition probability

ABSTRACT: The temperature dependence of the quantum fluorescence yield of several
anthracenes in solutions of n-propyl alcohol were investigated in the range
77-293K. The solutes studied were: anthracene; 1,4-diphenolbutadiene; and 9,10-
diphenyl anthracene. The spectroscopic instrumentation used is discussed in
detail by B. S. Neporent and V. P. Klochkov (Izv. AN SSSR, ser. fiz., 20, 601,
1956). The activation energy was determined for molecular transitions from a
singlet to a triplet state. Data reduction was obtained using the following two
correlations: at high temperatures,

$$\gamma = \frac{f}{f+r+d_0 \cdot e^{-E/kT}} \qquad (1)$$

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and for the low temperature limit.

$$\gamma = \frac{f}{f + r_o \cdot e^{-E/kT}} \qquad (2)$$

where

γ + = quantum yield of fluorescence yield

f = radiation transition probability

r = radiationless, spontaneous emission transition probability

E = activation energy

The effect of the solvent on the magnitude of the fluorescent yield is shown to vary considerably. "The author expresses deep gratitude to B. S. Nepprent for his valuable advice." Orig. art. has: 4 figures, 2 equations, and 1 table.

ASSOCIATION: none

SUBMITTED: 13Mar62   DATE ACQ: 19May63   ENCL: 00

SUB CODE: PH   NO REF SOV: 026   OTHER: 003
Card 2/2

KLOTHKOV, V.P.; KOROTKOV, S.M.

Temperature dependence of structural absorption and fluorescence
spectra of solutions of aromatic compounds. Opt. i spektr. 16 no.
5:833-841 My '64.   (MIRA 17:9)

L 01261-66   EWT(1)/EWT(m)/EPF(c)/EWP(j)   IJP(c)   RM

ACCESSION NR: AP5020798

UR/0048/65/029/008/1353/1356

AUTHOR: Klochkov, V. P.; Korotkov, S. M.

TITLE: Temperature dependence of the change of equilibrium distances in aromatic compounds /Report 13th Conference on Luminescence held in Khar'kov 25 June to 1 July 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 8, 1965, 1353-1356

TOPIC TAGS: light absorption, luminescence spectrum, aromatic compound, chemical bonding, anthracene, benzene

ABSTRACT: The formula of E.F.McCoy and I.G.Ross (Austral. J. Chem., 15, 573, 1962) for the relative band intensities in the structured spectra of aromatic compounds was employed to analyze the luminescence and absorption spectra of a number of aromatic compounds. The quantity x in this formula, which is proportional to $R(k/f)^{1/2}$, where k is the force constant, f is the vibration frequency, and R^2 is the sum of the squares of the changes in bond lengths due to the electron transition, was found to be constant for different parts of the spectrum when there was no overlapping of electron transitions. The quantity x was determined from both the luminescence and absorption spectra at temperatures from 20 to − 160°C for

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NO REF SOV: 008   OTHER: 002

KOROTKOV, S. N.

FD-1542

USSR/Medicine - Literature

Card 1/1   : Pub 102-13/14

Author   : Korotkov, S. N. (reviewer)

Title   : Review of the book, "Hospitals: a manual on planning and equipping"
               by A. Ya. Gaysinskiy et al.

Periodical : Sov. zdrav., 6, 58, Nov-Dec 1954

Abstract   : In this manual the author presents in a clear and simple form an
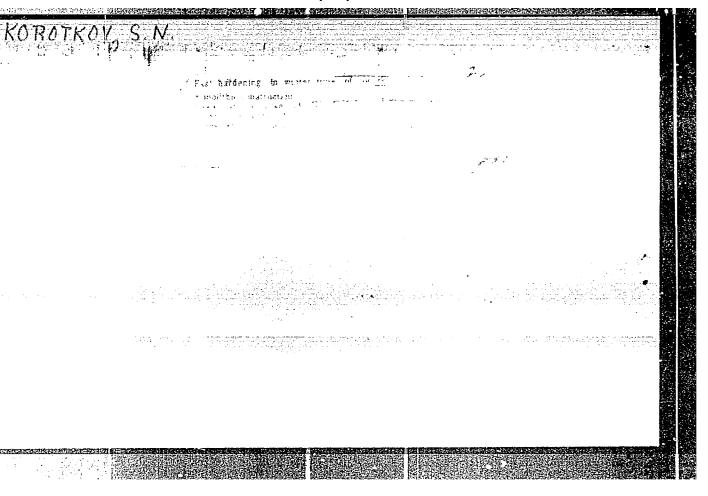   analysis of planning, construction, and equipping hospitals both
               in cities and in rural areas. In spite of presence of a few in-
               accuracies, repetitions, and omissions this book can be of great
               use to planners and builders of hospitals and auxiliary structures
               as well as to physicians. The reviewer hopes the defects contained
               in this book will be eliminated in the next edition. "Bol'nitsy,
               rukovodstvo po proyektirovaniyu i oborudovaniyu," prepared under
               general editorship of active member of the Academy of Medical
               Sciences, USSR, A. N. Sysin. Published Moscow, 1953, 310 pages, 394
               illustrations.

Institution :

Submitted   :

KOROTKOV S.N.

Fast hardening in water bath of the cement

MOSKVIN, V.M., doktor tekhnicheskikh nauk, professor; KOROTKOV, S.N., inzhener.

Use of quickhardening concrete under cold weather conditions.
Stroi. prom. 34 no.9:27-31 S '56.   (MLRA 9:10)

1. TSentral'nyy Nauchno-issledovatel'skiy institut promyshlennykh
sooruzheniy (for Korotkov)
          (Concrete--Cold weather conditions)

AUTHOR: Korotkov, S. N. (Engineer).   97-57-9-2/17

TITLE: Structural Characteristics and Properties of Rapid
               Hardening Concrete Frozen During Initial Stage of
               Setting (Nekotoryye osobennosti struktury i svoystv
               bystrotverdeyushchego betona, zamorozhennogo v rannem
               vozraste).

PERIODICAL: Beton i Zhelezobeton, 1957, Nr.9. pp.343-348. (USSR).

ABSTRACT: In 1937 B. G. Skramtayev and S. A. Mironov solved prob-
               lems of concreting in winter by using high active cement,
               hardening-accelerating additives and vibration. To
               simplify further these processes of concreting, the
               author, under the direction of V. M. Moskvin of the
               Academy of Building and Architecture of the USSR,
               (Akademii stroitel'stva i arkhitektury SSSR), carried
               out investigations in TsNIPS on various methods to
               accelerate hardening of concrete. Concrete was pre-
               pared from a quick-hardening Portland cement mix to
               comply with VTU 29-55, with the addition of gypsum and
               2% of calcium chloride. The results were published by
               Moskvin and Korotkov (Ref.1), who found that quick-
               hardening concrete retains the same speed of hardening
Card 1/5   in cold weather, i.e. many times higher than ordinary

Structural Characteristics and Properties of Rapid Hardening Concrete Frozen During Initial Stage of Setting.

concrete. This quick-hardening property is important in winter, as the period for protection against frost can thereby be shortened. To determine the effect of prolonged frost on the final strength, three test samples of various mixes were prepared. A concrete mix was made from rapid-hardening Portland cement manufactured by the Brotsensk Factory, of 591 kg/cm^2 activity. Freezing was carried out in a refrigerator to a temperature of -22°C immediately after casting, for durations of 6, 12, 24 and 48 hours. Fig.1 illustrates the reduced strength of concrete frozen during various stages of initial setting. Fig.2 is a magnified photograph of the concrete surface frozen to a temperature of -20°C immediately after casting. For comparison, Fig.3 shows a magnified photograph of the concrete surface hardened under normal conditions. Fig.4 gives a magnified photograph of the concrete surface frozen to a temperature of -20°C four hours after it has been cast, and Fig.5 shows a magnified photograph of the concrete surface frozen to a temperature of -20°C in 8 hours. Surface tension between concrete aggregate and solidifying cement matrix reaches approximately

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Structural Characteristics and Properties of Rapid Hardening Concrete Frozen During Initial Stage of Setting.

500 m^2/m^3, and in concrete one year old this tension reaches enormous figures, e.g. 1 $km^2/1m^3$, whereas in tests carried out by A. A. Shishkin, about 95% of the water turns into ice when a freshly cast mix is frozen to a temperature of -10°C. The authors found that only between 69 and 76% of water turned into ice when mix made of rapid hardening concrete is frozen for between 1 and 3 days under normal conditions. Fig.6 shows a magnified photograph of the structure of rapid-hardening Portland cement taken six hours after hydration. Fig.7 shows the same mix when frozen to -20°C for a few days. Fig.8 illustrates the water permeability of concrete samples made from rapid-hardening Portland cement of the Nikolayevsk Factory. The cement mix was 1:1.98:4.5 with water/cement ratio = 0.5. The figures in the diagrams give water penetration in mm^3 per hour. It should be noted that, whereas 75 mm^3 of water penetrated through test cubes made of ordinary concrete of normal hardening under a pressure of 10 atm., only 8 mm^3 of water penetrated through a concrete sample made from vibro-ground cement under a pressure of 15 atm. The value of water permeability in the latter case is much lower than the value

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97-57-9-2/17

Structural Characteristics and Properties of Rapid Hardening Concrete
Frozen During Initial Stage of Setting.

given during tests carried out by V. N. Sizov.
Further investigations were carried out on samples
of cement of laboratory-ground clinker from Komsomo-
lets Factory, with the addition of 5% gypsum. The
mix was prepared in the proportion of 1:1.75:4.18 with
a water/cement ratio = 0.5. The test cubes were
7 x 7 x 21 cm and 10 x 10 x 10 cm in size. The changes
occurring in the structure of the concrete during the
process of freezing and de-freezing are shown in Fig.9.
After 100 cycles of freezing and de-freezing in sea water
there was a 20 - 27% reduction of strength both in normal
samples and frozen samples in comparison with the strength
of the control samples. Experiments were also carried
out on the increase of the strength of quick-hardening
concrete when freezing is applied in the early stages
of initial hardening. Concrete cubes 10 x 10 x 10 cm
were prepared from laboratory-ground cement with in-
creased quantities of gypsum additives, and were frozen
up to -20°C and kept in this temperature for 1, 2 and 3
days. After 6 days in a refrigerator the cubes were
kept for one year in normal outdoor conditions. Fig.10

Card 4/5   shows an increase of 3-27% in the strength of rapid-

27-57-9-2/17

Structural Characteristics and Properties of Rapid Hardening Concrete
Frozen During Initial Stage of Setting.

hardening concrete after one year in comparison with a
similar concrete 28 days old. Tests have been carried
out on the effects of increased gypsum and calcium
chloride additives on the corrosion of reinforcement.
For these tests, 75 mm diameter and 150 mm high cylindri-
cal concrete test samples were prepared from cement
of laboratory-ground clinker from the Nev'yansk Factory,
with 3-7% gypsum additive and of clinker from the
Kramatorsk Factory with 3-5% gypsum additives. These
test cubes were kept for 14 months, either in air or
under water, to establish the effect of corrosion on
the reinforcement. It was found that the structure
and basic properties of quick hardening and high acti-
vity concrete, frozen for 1-2 days after casting, do
not differ practically from the properties of concrete
under normal conditions. There are 10 Figures and 4
References. 2 of which are Slavic.

AVAILABLE: Library of Congress.

1. Concrete-Construction   2. Concrete-Hardening   3. Concrete-
Card 5/5   Preparation   4. Weather factors-Applications

Korotkov, S N

KOROTKOV, S.N., inzh.

The effect of early freezing on the basic properties of rapid-
hardening concrete. Biul. stroi. tekh. 14 no.8:15-18 Ag '57.
(MIRA 10:11)

1. Institut betona i zhelezobetona Akademii stroitel'stva i arkhi-
tektury SSSR.
(Concrete--Testing)

KOROTKOV, S.N., inzh.

Physical and chemical processes when freezing concrete in its early
age. Trudy NIIZHB no.2:119-133 '58.   (MIRA 11:9)
                    (Concrete testing)

KOROTKOV, S-N·

AUTHOR: Korotkov, S.N., Engineer   98-58-5-7/33

TITLE: The Dependence of Concrete Strength on Adding Large Stones
                to the Concrete Mixtures (Zavisimost' prochnosti betona ot
                vvedeniya v betonnuyu smes' krupnykh kamney)

PERIODICAL: Gidrotekhnicheskoye Stroitel'stvo, 1958, Nr 5, pp 30-34(USSR)

ABSTRACT: The stamping of large stones into concrete mixture has been
                practised for some time. Research has been carried out on
                this subject by V.M. Moskvin, N.A. Moshchanskiy, A.P. Popov,
                A.A. Shishkin and others. However, inspite of the fact that
                this method is useful in saving cement and may be applied
                not only in hydrotechnical, industrial, road building and
                airfield constructions, but also in the manufacture of
                prefabricated concrete, at present it is not widely used.
                Experiments carried out with combined stone-concrete have
                shown that the stones increase the strength of the concrete
                and that a 12-35% saving of cement can be effected. Heat
                emanation and its destructive after-effects decrease. The
                general porosity of concrete is lowered and this prolongs
                its durability. If, however, stones with negative tempera-
Card 1/2   tures are stamped into the concrete mixture, then the final

98-58-5-8/33

The Dependence of Concrete Strength on Adding Large Stones to the Concrete
Mixtures

strength of the concrete decreases, the coherence between
cement, stone and fillers is destroyed and porosity is
increased.
There are 2 diagrams, 1 figure, 2 tables, and 5 references,
3 of which are Soviet, and 2 German.

AVAILABLE: Library of Congress

Card 2/2

KOROTKOV, S. N., Candidate Tech Sci (diss) -- "Investigation of the properties

of quick-setting concrete for winter use". Moscow, 1959, published by Profizdat.

17 pp (Acad Construction And Architecture USSR, Sci Res Inst of Concrete and

Reinforced Concrete NIIZhB), 150 copies (KL, No 22, 1959, 115)

SOV/97-59-1-7/18

AUTHOR: Korotkov, S.N., Engineer

TITLE: Investigation of Properties of Rapid-Hardening Concrete Used for Winter Concreting (Issledovaniye svoystv bystrotverdeyushchego betona dlya zimnego betonirovaniya)

PERIODICAL: Beton i Zhelezobeton, 1959, Nr 1, pp.23-25 (USSR)

ABSTRACT: Temperatures between -5 and -10°C considerably retard the speed of hardening of rapid-hardening concrete. When rapid-hardening concrete is used during winter it is necessary to increase the temperature at which the concrete hardens. This means that the water and the aggregate should be pre-heated, and in extreme cases the concrete should be warmed up using electrical heat. In various cases it is advisable, in order to speed up the work, to use concrete of higher quality than required by calculation. In such a case the concrete can be subjected to frost much sooner than otherwise (see TU 112-55). Defects in the structure of concrete subjected to frost before initial setting is finished are caused by the formation in the concrete of relatively large pieces of ice. Rapid-hardening concrete reaches, after one or two hours'

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SOV/97-59-1-7/18

Investigation of Properties of Rapid-Hardening Concrete Used for Winter Concreting

hardening under normal conditions, such a degree of strength that without damage to the structure it can be subjected to frost. These problems were investigated by the Institute for Concrete and Reinforced Concrete ASiA SSSR (Institut betona i zhelezobetona ASiA SSSR) under the leadership of Prof. V.M. Moskvin. Figs.1 and 2 show the effect of vibro-grinding on cement with additive of 2% of CaCl₂ and the effect on the speed of hardening of concrete at various temperatures. Similar results were obtained also with cement from Nev'yansk factory with additive of 7% gypsum and 2% CaCl₂ (see Fig.3). Times at which, after 28 days hardening, various cements achieve 50 and 70% of final strength are shown in a table on p 23. Better results are obtained when reinforced concrete constructions are produced with the application of BTTs and electrical curing. For example, last winter in the Sokolovrudastroy the author of this article advocated electrical curing of precast constructions, with application of BTTs, at a temperature of 50-60°C, instead of 40°C as recommended

Card 2/4

Card .

...al
...different
...under normal
...55 the concrete should
...it reaches 50% of the
...results of tests carried out on
...ncrete subjected to frost during the
...ing showed that concrete which reached

Investigation of Properties of Rapid-Hardening Concrete Used for Winter Concreting   SOV/97-59-1-7/18

strength of 35-40% of the 28-day strength before the freezing was applied lost only 10-15% of its final strength.   Fig.4 shows variations of modulus of elasticity of test cubes subjected to repeated freezing and defreezing during the period of initial setting. Fig.5 gives a graph of the effect of the degree of grinding of cement on the frost-resistance of concrete. There are 5 figures and 1 table.

Card 4/4

KOROTKOV, S.N.; KOBYLYANSKY, D.A.

The pattern of designed men's suits for mass production. Leg.
prom. 15 no.10:20-26 O '55.   (MLRA 9:1)
                    (Tailoring)

KOROTKOV, Sergey Nikitich: SUBBOTIN, Semen Semenovich; GOLOVANOV, V.V.,
    red.; BUNICHEV, P.Ye., polkovnik, tekhn.red.; SRIBNIS, N.V.,
    tekhn.red.

    [Designing and tailoring military uniforms; textbook] Konstrui-
    rovanie voennoi odezhdy; uchebnoe posobie. Moskva, Voen.izd-vo
    M-va obor.SSSR, 1960. 335 p.   (MIRA 13:11)
                    (Uniforms, Military)

VINOGRADOV, Sergey Kuz'mich; REPEYKOV, Viktor Nikolayevich; LEBEDEV,
Aleksey Mikhaylovich; SUBBOTIN, S.S.; retsenzent; KOROTKOV, S.N.,
retsenzent; KOBLYAKOVA, Ye.B., nauchnyy red.; GUSEVA, A.I., red.;
KNAKNIN, M.T., tekhn.red.

[Making patterns for men's outer garments] Konstruirovanie
muzhskoi verkhnei odezhdy. Moskva, Izd-vo nauchno-tekhn.lit-ry
RSFSR, 1961. 335 p.   (MIRA 14:6)
              (Men's clothing)

KOROTKOV, Sergey Nikitich; KRAVCHENKO, Semen Moiseyevich; SUBBOTIN,
    Semen Semenovich; BORISOVA, G.A., red.; BRODSKIY, M.P.,
    tekhn. red.

[Manufacture of custom-made outerwear]Izgotovlenie verkhnei
odezhdy po individual'nym zakazam. Moskva, Gostorgizdat,
1963. 301 p.   (MIRA 16:4)
                        (Tailoring)

GRISHINA, Antonina Andreyevna; SERGEYEV, Nikolay Aleksandrovich;
    KOROTKOV, S.N., retsenzent; SUBBOTIN, S.S., retsenzent;
    PUDNIK, F.P., nauchnyy red.[deceased]; GUSEVA, A.I., red.;
    KNAKNIN, M.T., tekhn. red.

    [Technology of the tailoring of women's coats]Tekhnologiia
    poshiva zhenskikh pal'to. Moskva, Rostekhizdat, 1962. 231 p.
                             (MIRA 16:4)
             (Tailoring (Women's))

L 27103-66   EWT(m)/EWP(k)

ACC NR: AP6017415   SOURCE CODE: UR/0097/65/000/010/0035/0038

AUTHOR: Korotkov, S. N. (Candidate of technical sciences); Koskin, Ye. S. (Engineer)

ORG: none

TITLE: Use of ultrasonic pulses to study the properties of reinforced concrete

SOURCE: Beton i zhelezobeton, no. 10, 1965, 35-38

TOPIC TAGS: reinforced concrete, ultrasonic inspection

ABSTRACT: The ultrasonic pulse method may be successfully used for checking the increase of strength in concrete aged under natural conditions and subjected to heat and moisture treatment. This method gives a clear indication of the structural changes which take place in concrete which is repeatedly frozen and thawed and exposed for short terms to temperatures of 100-500°. The ultrasonic method may be used for inspection of concrete strength and quality in prefabricated objects and in monolithic structures with an accuracy of ±10%. Mass production of the proper ultrasonic instruments should be organized and efforts should be made to standardize the ultrasonic testing method for wider use in the inspection of prefabricated and monolithic structures. Orig. art. has: 7 figures. [JPRS]

SUB CODE: 11 / SUBM DATE: none / ORIG REF: 007

Card 1/1   UDC: 666.982.017:620.179

KOROTKOV, S.P.

Plastic operation of the bone in tuberculosis of the patella. Ortop.
travm.i protes. 20 no.9:70-72 S '59.   (MIRA 13:2)

1. Iz Kurskoy oblastnoy protivotuberkuleznoy bol'nitsy (glavnyy vrach -
S.S. Agronin).
            (TUBERCULOSIS, OSTEOARTICULAR, surg.)

ZADOV, Aleksandr Grigor'yevich; ANISIMOV, Aleksandr Mikhaylovich; BAZLOV,
    Mikhail Nikolayevich; BRAGIN, Viktor Alekseyevich; GUDKOV, Boris
    Aleksandrovich, KOROTKOV, Sergey Tikhonovich, SHTEYNER, Samuil
    Iovelevich; SHEREMET'YEVA, L.P., vedushchiy red.; TROFIMOV, A.V.,
    tekhn.red.

    [Petroleum industry in Krasnodar Territory] Neftianaia promyshlen-
    nost' Krasnodarskogo kraia. Moskva, Gos.nauchno-tekhn.izd-vo neft.
    i gorno-toplivnoi lit-ry, 1957. 69 p.   (MIRA 11:2)
            (Krasnodar Territory--Petroleum industry)

KOROTKOV, S.T.

New promising gas and oil regions of Krasnodar Territory. Geol.
nefti 1 no.2:16-22 F '57.   (MIRA 10:8)
    (Krasnodar Territory--Petroleum geology)
    (Krasnodar Territory--Gas, Natural--Geology)

KOROTKOV, S.T.

Some problems relative to determining oil reserves. Geol. nefti
1 no.8:59-62 Ag '57.   (MIRA 10:12)

1.Krasnodarneft'.

(Petroleum geology)

KOROTKOV, S.T.

Results of and prospects for exploratory work in the Azov-Kuban
oil and gas basin. Geol.nefti 1 no.11:43-47 N '57. (MIRA 10:9)

1. Ob'yedineniye Krasnodarneft'.
    (Azov region--Petroleum geology) (Azov region--Gas,Natural--Geology)
    (Kuban--Petroleum geology) (Kuban--Gas, Natural--Geology)

KOROTKOV, S.T.

Development of advanced oil-field production methods in Krasnodar
Territory. Geol. nefti 2 no.11:1-6 N '58.   (MIRA 11:12)

1.Krasnodarskiy sovnarkhoz.
          (Krasnodar Territory--Petroleum engineering)

KOROTKOV, S. T., KRYLOV, A. P., TREBIN, F. A., BORISOV, Y. A., BUCHIN, A. N., MAMIMOV, M. I., ABASOV, M. T., MIRCHINK, M. F., VASILEVSKIY, V. N., SHELKACHEV, V. N., KOSLOV, A. L., MINSKIY, E. M.

"Development of the Theory and Practice of Oil and Gas Field Production in the USSR."

Report submitted at the Fifth World Petroleum Congress, 30 May – 5 June 1959. New York City.

KOROTKOV, S.T.

Method for evaluating the potential of the Azov-Kuban oil- and gas-bearing basin. Geol. nefti i gaza 3 no.9:25-27 S '59.
(MIRA 13:1)

1.Upravleniye Krasnodarneft'.
(Kuban--Petroleum geology)
(Kuban--Gas, Natural--Geology)
(Azov region--Petroleum geology)
(Azov region--Gas, Natural--Geology)

KOROTKOV, S.T.

New data on the geology of western Ciscaucasia and prospects
for discovering new large oil fields. Geol.nefti i gaza 3
no.11:6-13 N '59.   (MIRA 13:3)

1. Krasnodarskiy sovnarkhoz.
        (Caucasus, Northern--Petroleum geology)

KOROTKOV, S.T.

Geological legacy of Academician I.M.Gubkin to the Kuban; on the
20th anniversary of his death. Trudy KF VNII no.4:285-290 '60.
(MIRA 13:11)

(Kuban--Petroleum geology)
(Gubkin, Ivan Mikhailovich, 1871-1939)

KOROTKOV, S.T.; SHEKHTER, R.I.

Methods of commercial oil and prospecting. Trudy VNII no.30:49-75 '60.
(MIRA 14:2)

(Petroleum geology)   (Gas, Natural—Geology)

KOROTKOV, S.T.

Improvement of prospecting as a means for fulfilling ahead of schedule
the seven-year plan for increasing the producible oil and gas reserves.
Geol. nefti i gaza 4 no.2:1-5 F '60.   (MIRA 13:10)

1. Krasnodarskiy sovnarkhoz.
                    (Prospecting)

KOROTKOV, S.T.

Geology, and oil and gas potentials of eastern Ciscaucasia. Geol.
nefti i gaza 4 no.5:62-64 My '60.   (MIRA 13:9)
          (Caucasus, Northern--Petroleum geology)
      (Caucasus, Northern--Gas, Natural--Geology)

KOROTKOV, S.T.; AMELIN, I.D.

Effective well patterns in oil fields of Krasnodar Territory.
Geol. nefti i gaza 4 no.9:14-20 S '60.   (MIRA 13:8)

1. Krasnodarskiy Sovnarkhoz.
                (Krasnodar Territory--Oil wells)

KOROTKOV, S.T.

Oil and gas in the Sochi region. Geol. nefti i gaza 4 no.10:7-9
O '60.   (MIRA 13:9)

1. Upravleniye Krasnodarneft'.
        (Sochi region—Petroleum geology)
        (Sochi region--Gas, Natural--Geology)

KOROTKOV, S.

"Regularities of the formation and distribution of petroleum and gas pools" by A.L.Kozlov. Reviewed by S.Korotkov. Gaz.prom. 5 no.11:54-55 N '60.   (MIRA 13:11)
        (Gas, Natural--Geology)   (Kozlov, A.L.)

KOROTKOV, S.T.; SHEKHTER, R.I.

Methods of commercial oil and gas prospecting. Trudy VNII no.30:49-75 '60. (MIRA 14:2)
(Petroleum geology) (Gas, Natural—Geology)

BROD, I.O.; BELOV, K.A.; BURSHTAR, M.S.; KOROTKOV, S.T.; NESMEYANOV,
    D.V.; TSATUROV, A.I.

Oil and gas potentials of Ciscaucasia in view of the distribution
characteristics of accumulations in the piedmont basins. Trudy
VNIGNI no.32:76-99 '60.   (MIRA 14:7)
            'Caucasus, Northern--Petroleum geology)
        (Caucasus, Northern--Gas, Natural--Geology)

KOROTKOV, S. T.

~~TROFIMUK, A.~~, akademik

"Gas fields in the U.S.S.R." by K.A.Belov and others. Reviewed by
A.A.Trofimuk. Geol.nefti gaza 6 no.4:61-63 Ap '62.
(MIRA 15:4)

(Gas, Natural—Geology) (Belov, K.A.) (Vasil'ev, V.G.)
(Elin, N.D.) (Erofeev, N.S.) (Korotkov, S.T.)
(L'vov, M.S.) (Mironchev, IU.P.) (Muratova, A.T.)
(Roshkov, E.L.)

KOROTKOV, S.V. (Leningrad); MYASNIKOV, V.A. (Leningrad)

Method with a high quality factor requirement for realising
automatic control systems. Avtom. i telem. 23 no.7:938-942
Jl '62.   (MIRA 15:9)
(Automatic control)

KOROTKOV, S.T.,   TSATUROV, A.I., AKRAMKHODZHAYEV, A.M.,

Problem of oil and gas content in meso$_z$oic deposits in the south
of the USSR

Report to be submitted for the sixth World Petroleum Congress,
Frankfurt, 16-26 June 63.

KOROTKOV, S.T.; SHEKHTER, R.I.

Methods of prospecting for commercial oil and gas fields in
Krasnodar Territory. Trudy VNII no.33:138-148 '61.
(MIRA 16:7)

1. Vsesoyuznyy neftegozovyy nauchno-issledovatel'skiy institut,
Moskva.
(Krasnodar Territory—Petroleum geology)

BORD, I.O.; BURLIN, Yu,K.; KOROTKOV, S.T.; PUSTIL'NIKOV, M.R.; FEDOROV, S.F.;
    KHAKIMOV, M.Yu.; SHARDANOV, A.N.

    Azov-Kuban oil- and gas-bearing basin. Zakonom. razm. polezn. iskop.
    5:536-548 '62.   (MIRA 15:12)

    1. Moskovskiy gosudarstvennyy universitet, Krasnodarskiy sovet
    narodnogo khozyzystva (tresty "Krasnodarneft'" i "Krasnodarneftegeofi-
    zika"), Institut geologii i razrabotki goryuchikh iskopayemykh AN SSSR
    i Kompleksnaya neftegazovaya geologicheskaya ekspeditsiya AN SSSR.
    (Azov-Kuban region—Petroleum geology)
              (Azov-Kuban region—Gas, Natrual—Geology)

KOROTKOV, S.T.

Basic results of and trends in geological prospecting for
gas in Krasnodar Territory. Gaz. delo nc.6/7:13-15 '63.
(MIRA 17:10)

1. Krasnodarskiy filial Vsesoyuznogo neftegazovogo nauchno-
issledovatel'skogo instituta.

KOROTKOV, S.T.; AMELIN, I.D.

Present status of a d prospects for the development of the
Maeotic horizon IV f the Anastasiyevka-Troitskoye oil field.
Geol. nefti i gaza ' no.10:34-39 O '63.   (MIRA 17:10)

1. Krasnodarskiy filial Vsesoyuznogo neftegazovogo nauchno-
issledovatel'skogo instituta.

ALEKSIN, A.G.; KOROTKOV, S.T.

Oil industry of the Northern Caucausus. Geol. nefti i gaza 8 no.9:
23-28 S '64.   (MIRA 17:11)

1. Krasnodarskiy filial Vsesoyuznogo neftegazovogo nauchno-issledo-
vatel'skogo instituta i Gosudarstvennyy komitet po koordinatsii
nauchno-issledovatel'skikh rabot SSSR.

BOTNEVA, T. A.; YEREMENKO, N. A.; KOROTKOV, S. T.; SHARDANOV, A. N.

"Regularities in distribution of oil and gas deposits in West Fore-Caucasus."

report submitted for 22nd Sess, Intl Geological Cong, New Delhi, 14-22 Dec 1964.

PHASE I BOOK EXPLOITATION   SOV/5533

Akademiya nauk SSSR. Institut elektromekhaniki.

Spetsial'nyye voprosy avtomatizirovannogo elektroprivoda (Special Problems of the Automatic Electric Drive) Moscow, Izd-vo AN SSSR, 1961. 248 p. Errata slip inserted. 6,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut elektromekhaniki.

Eds. (Title page): D. A. Zavalishin, Corresponding Member, Academy of Sciences USSR, and V. V. Rudakov, Candidate of Technical Sciences; Ed. of Publishing House: N. V. Travin; Tech. Ed. : R. A. Arons.

PURPOSE: This book is intended for technical personnel engaged in designing or operating regulated and automated electric drives for machines and mechanisms. It may also be useful to students in advanced courses working on term and degree projects.

Card 1/9

Special Problems of (Cont.)   SOV/5533

COVERAGE: The book discusses the principles of operation and the methods
of computation of regulated drives with a-c and d-c motors. Special
attention is paid to problems related to the frequency method of induction
motor control, which the authors consider the most promising. Recom-
mendations regarding the use of a-c commutator motors and induction
motors with special winding and improved starting characteristics are
made. A considerable part of the book is devoted to problems of design
and calculation of the control circuits for automated d-c drives, and to
methods of investigating dynamic characteristics of d-c drive systems
by means of electronic and electrodynamic models. Recent developments
in regulated d-c drives and modern methods of analyzing and synthesizing
automated d-c systems, based on investigations carried out by the Insti-
tut elektromekhaniki AN SSSR (Institute of Electromechanics AS USSR),
are discussed in detail. The book was written by the following persons:
A. A. Dartau (Chs. II and III), D. A. Zavalishin (Introduction, sections
1, 4, 5, and 6 of Ch. I, and Ch. II); S. V. Korotkov (Ch. VI, sec. 3);

Card 2/9

Special Problems of (Cont.)   SOV/5533

I. I. Laptev (sections 4 and 5 of Ch. V); O. V. Popov (Ch. IV; sections
2, 4, and 5 of Ch. V, and sec. 3 of Ch. VI,); V. A. Prozorov (sections
1, 2, and 3 of Ch. I.); V. V. Rudakov (Introduction, sec. 1 of Ch. V,
sections 1 and 4 of Ch. VI); V. V. Semenov (sec. 3 of Ch. V); Ye. M.
Smirnov (sec. 2 of Ch. VI); E. F. Stepura (sec. 3 of Ch. V); A. V.
Fateyev (Introduction). There are 69 references: 59 Soviet, 7 German,
2 English, and 1 French.

TABLE OF CONTENTS:

Card 3/9

POPOV, O.V.; KOROTKOV, S.V.

Selection of optimum parameters of automatically controlled
electric drive systems using amplidynes as generators. Sbor.
rab.po vop.elektromekh. no.7:101-115 '62.   (MIRA 16:1)
          (Electric driving)   (Automatic control)

POPOV, O.V.; KOROTKOV, S.V.

Study of transient processes in an automated electric drive
using electronic analog computers. Sbor.rab.po vop.elektromekh.
no.7:115-130 '62. (MIRA 16:1)
            (Electric driving)   (Automatic control)

3,1710

S/573/62/000/007/005/015
D201/D308

AUTHORS: Korotkov, S.V., Myasnikov, V.A. and Sabinin, Yu.A

TITLE: Problems in the analysis of sampled-data follow-up
                systems for the control of azimuthal instruments

SOURCE: Akademiya nauk SSSR. Institut elektromekhaniki.
                Sbornik rabot po voprosam elektromekhaniki. no. 7,
                1962. Avtomatizatsiya, telemekhanizatsiya i priboro-
                stroyeniye, 192-209

TEXT: The authors analyze the problems involved in design-
ing highly accurate mechanisms for guiding astronomical instruments.
The analysis shows that, although the theoretical dynamic range of
operation of such control systems is infinitely great, the zero
velocity may in practice be approached only at the elongation points. V_β
The most suitable method is that of lowering the comparison frequen-
cy by introducing velocity control, which makes it possible not only
to approach the zero velocity condition but also to realize a wide
effective control range. Since the parameters of azimuthal instru-

Card 1/2

Problems in the analysis ...

ments are related to each other by trigonometric expressions, which in their discrete form are most easily solved by digital differential analyzers, the operation of such an analyzer, as related to sampled data position control systems, is considered and its optimal design discussed. The analyzer should be used for comparing the actual and theoretical numerical values of coordinates of the position control process, not their indirect functions. The use of a digital differential analyzer allows position and velocity control and results in simple structures of both continuous and sampled-data control systems. The results of the analysis are used for designing a system for position and velocity control of an astronomical instrument including a digital differential analyzer as its integral part and operating on a real time scale. There are 4 figures.

Card 2/2

S/103/62/023/007/006/009
D201/D308

/6.8000

AUTHORS: Korotkov, S. V., and Myasnikov, V. A. (Leningrad)

TITLE: A method of realization of automatic control
                  systems requiring a high quality factor

PERIODICAL: Avtomatika i telemekhanika, v. 23, no. 7, 1962,
                  938-942

TEXT: The method applies to the automatic control systems with
a high quality factor and wide range of velocity control. It can
be applied to both continuous and switched systems when the analy-
tical equations of motion of the system are given. The method
consists of introducing additional first, second, etc., coordinate
derivate controls with their corresponding safety factors. Every
higher order coordinate derivative control, taken with a certain
safety factor, reduces the required quality factor of the next
lower order derivative control, resulting ultimately in a lower
quality factor of the original control system. For astatic

Card 1/2

A method of realization...   S/103/62/023/007/006/009
                                            D201/D308

systems, the quality factor numerically equals the static gain,
so that its ultimate lowering leads to increase in the system's
stability. The usefulness of the suggested method is greatly
increased when digital follow-up systems are used, if it becomes
necessary to lower the frequency at which the actual and theoreti-
cal values of the controlled parameters are compared. In these
cases, the e.g. velocity control acts as an interpolating system
between the points of comparison of the theoretical and actual
values of the coordinate. The described method is used for set-
ting up control systems for astronomical instruments, radio tele-
scopes, and other objects with azimuthal mounting. There is 1
figure.

SUBMITTED: December 7, 1961

Card 2/2

ACCESSION NR: AT3008541   s/2964/63/000/000/0060/0079

AUTHORS: Korotkov, S. V.; Myasnikov, V. A.; Sabinin, Yu. A.

TITLE: Some principles for constructing a discrete system of controls for azimuthal astronomical instruments

SOURCE: Novaya tekhnika v astronomii materialy* soveshch. Komissii priborostroyen pri Astronom. sovete AN SSSR, Moskva, 18-20 apr. 1961 g. Moscow, Izd-vo AN SSSR, 1963, 60-79

TOPIC TAGS: control system, azimuth. telescope, azimuthal mounting, automatic control

ABSTRACT: The authors have carefully investigated the advantages of an azimuthal mounting over the standard equatorial mounting for telescopes and have examined the means of controlling such instruments. The range of control in a system to direct azimuthal instruments is theoretically infinite. In practice it is possible to approach, for velocity control, the points of elongation (the transition of velocity through zero). The authors have worked out a method for lowering the frequencies of iteration and of comparison by means of a control system for velocity which permits close approximation to zero velocity with a rather wide range in

Card 1/2

ACCESSION NR: AT3008541

control. This method allows selection of the optical structure of a digital
following system for controlling azimuthal instruments. The guidance process
according to position must be done by comparison, in a central selection station, of
the true and computed values of coordinates, not of functions of these coordinates.
A central selection station for controlling azimuthal instruments by a serial
digital differential analyzer is simply designed, with the possibility of control by
position or by velocity. The authors' method of setting up a central selection
system may find practical use in azimuthal telescopes, radiotelescopes, and other
similar instruments of automatic control requiring very high precision and smooth
operation. Orig. art. has: 12 figures and 27 formulas.

ASSOCIATION: Institut elektromekhaniki GK SM SSSR po avtomatiz. i mashinostr.
(Institute of Electromechanics GK SM SSSR for Automation and Machine Design)

SUBMITTED: 00   DATE ACQ: 16Oct63   ENCL: 00

SUB CODE: AA, IE   NO REF SOV: 003   OTHER: 000

Card 2/2

ACCESSION NR: AT4015858   S/2573/63/000/009/0087/0101

AUTHOR: Korotkov, S.V.; Myasnikov, V.A.; Pivovarov, V.T.

TITLE: Investigation of the algorithm of a special-purpose digital computer for the transformation of equatorial coordinates into azimuthal coordinates

SOURCE: AN SSSR. Institut elektromekhaniki. Sbornik rabot po voprosam elektromekhaniki, no. 9, 1963. Avtomatizatsiya, telemekhanizatsiya i priborostroyeniye. (Automation, telemechanization and instrument manufacture), 87-101

TOPIC TAGS: azimuth equator, azimuth coordinate, equatorial coordinate, digital computer, computer, algorithm, zenith, digital system, tracking system, telescope, ternary code, accelerated clock

ABSTRACT: The logical design of a special-purpose digital computer which transforms the equatorial coordinates (declination δ and ascent α) into azimuthal coordinates (azimuth A and zenith distance z), using digital differential analyzer principles, is worked out in detail. The computer is to be used in an automatic digital tracking system for a telescope (or any other azimuthal instrument). It uses 10 digital integrators of 20-bit capacity, with a resultant error in A and z of the order of 10^{-6}. The transformation equations which form

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ACCESSION NR: AT4015858

Ternary code is used for incremental values, which requires that different polarities be processed through different channels. With this method of coding, the null-element becomes a bidirectional counter which controls the gates B through which the timing pulses Δt pass until the contents of the counter become zero. The initial values of sin z and cos z must be, of course, stored in registers of integrators 5 and 6. Equation (2) is also realized in its differential form

$$d(\sin A) \sin z + d(\sin z) \sin A = a_1 d(\sin t) \tag{4}$$

by a null-element (12) and integrators 9 and 10, with integrators 8 and 11 supplying necessary additional transformations. Before the system can be used for tracking, initial values of the coordinates (a_1 and a_5) must be supplied to the scale integrators 3 and 7. The time reference point is $t = 180°$, which corresponds to S/2 (S is a stellar day, 23 hours, 56 minutes, 4.08 sec.). The calculation of initial coordinates continues until $S/2 - S_1$, at which point the output coordinates correspond to the true coordinates of the star. This is done by reconnecting the elements of the system so that integrators 9 and 10 calculate $a_1 = \cos \delta$ and integrators 5, 6, 8, 9, 10, and 11 give $a_5 = \cos \gamma \cos \delta$, using the processing equation $da_1 = d \cos \gamma \cos \delta + d \cos \delta \cos \gamma$. The initial values are $\gamma = \delta = 0$, and the processing stops when the preselected values of γ_0 and δ_0 are reached. An accelerated clock, which requires 4 minutes to cover the entire azimuth angle of 360°, rate of 25 kc is used for

CARD 3/5

KOROTKOV, S.V.

Composite control system of an azimuthal instrument. Sbor. rab. po
vop. elektromekh. no.9:190-197 '63.   (MIRA 17:2)

SITNIKOV, I.S.; KOROTKOV, S.V.; MYASNIKOV, V.A.; PIVOVAROV, V.T.

Automatic meter of the volume of round logs for long conveyors.
Biul. tekh.-ekon. inform. Gos. nauch.-issl. inst. nauch. i
tekh. inform. 17 no.2:53-55 '64.   (MIRA 17:6)

L :114-65   EWT(d)/EWP(1) Po-4/Pq-4/Pg-4/Pk-4/Pl-4   IJP(c) GS/BC
ACCESSION NR: AT5003621   S/0000/64/000/030/0188/0201

AUTHOR: Zhandarov, M. Ye.; Korotkov, S. V.; Myasnikov, V. A.;
Pivovarov, V. T.; Stabnikova, G. V.; Tarasenko, Ye. V.

TITLE: Experimental outfit for studying combined digital servos with a
harmonic input signal

SOURCE: AN SSSR. Institut elektromekhaniki. Avtomatizirovannyy elektroprivod
(Automated electric drive). Leningrad, Izd-vo Nauka, 1964, 188-201

TOPIC TAGS: servo, servo system, digital servo system

ABSTRACT: The outfit consists of a special computer and an executive system.
The computer comprises two semiconductor integrators with a parallel carry of
integrand and a high-speed carry of overflow units. Each integrator (described
elsewhere) includes a reversible counter and a storage unit. The integrators are
connected for yielding the increments $\Delta \sin \omega t$ and $\Delta \cos \omega t$, i.e., the increments

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ACCESSION NR: AT5003621

of coordinates of a point that travels along a circle. The sine function is
generated with an accuracy up to the 20th binary digit. Also, the means for
computing a time-derivative of angle are provided. A princpal circuit diagram of
the outfit is explained in some detail. The combined digital servo system consists
of a coordinate servo and a rate (or speed) servo. Informaton about coordinate
$\sin \omega t$ and its rate of change $\cos \omega t$ comes from the computer and is fed into the
corresponding servos. The coordinate information appears periodically; the rate,
continuously. The outfit permits investigating two-motor "angle-angle" servos as
well as two- and single-motor "angle-rate" servos. Orig. art. has: 8 figures,
12 formulas, and 1 table.

ASSOCIATION: none

SUBMITTED: 08Jul64   ENCL: 00   SUB CODE: DP, IE

NO REF SOV: 009   OTHER: 000

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L 5174-66   EWT(d)/EWT(l)/FCS(k)/EWA(m)-2/EWP(l)   IJP(c)   BB/GG/GS/WR

ACCESSION NR: AT5021841   UR/0000/65/000/000/0144/0149   '60

AUTHOR: Korotkov, S. V.; Maksimov, V. P.; Myasnikov, V. A.   B+1

TITLE: The use of the electrical reduction method in instrument design 95

SOURCE: AN SSSR. Institut elektromekhaniki. Avtomatizirovannyy elektroprivod; sledya-shchiye sistemy, upravleniye i preobrazovatel'nyye ustroystva (Automated electric drive; tracking system, control and converter devices). Moscow, Izd-vo Nauka, 1965, 144-149

TOPIC TAGS: servomechanism system, digital system, photoelectric effect, optic instrument

ABSTRACT: The development of digital slave systems puts added emphasis on the resolving power of angle-to-digit converters. In principle, such a conversion may follow 1) the accumulation, 2) the cyclic, or 3) reading principle. After pointing out that the first approach allows the appearance of systematic errors and the second leads to cumbersome converters, the present author discusses the operation and respective merits of inductocins, of optocins, and of free-playless electrical reducers. Tests have been carried out at the Institut elektromekhaniki (Institute of Electromechanics) with converters incorporating photoelectric reducers. The setup described in the paper is capable of easily maintaining

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ACCESSION NR: AT5021841

a given phase-system statistical accuracy of 10' which is equivalent to converter resolving power of 0.6". With a Q factor of 100 and a permissible dynamic error of 3" the maximum rotational speed is equal to 300"/sec. Orig. art. has: 3 formulas and 1 figure.

ASSOCIATION: None

SUBMITTED: 12Apr65   ENCL: 00   SUB CODE: IE, OP

NO REF SOV: 005   OTHER: 001

Card 2/2

L 5175-66   EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(1)   IJP(c)   BB/GJ/GS

ACCESSION NR: AT5021842   UR/0000/65/000/000/0150/0156

AUTHOR: Korotkov, S. V.; Maksimov, V. P.; Myasnikov, V. A.

TITLE: The coordination of readings in multireading shaft-digit converters

SOURCE: AN SSSR, Institut elektromekhaniki, Avtomatizirovannyy elektroprivod; sledya-shchiye sistemy, upravleniye i preobrazovatel'nyy ustroystva (Automated electric drive; tracking systems, control and converter devices). Moscow, Izd-vo Nauka, 1965, 150-156

TOPIC TAGS: cyclic coding, error correction, error minimization, angle measurement instrument

ABSTRACT: Multireading angle-digit converters seem to be the most promising in the field of high accuracy angular determinations. They require, however, a coordination of the coarse and fine readings since, otherwise, errors may appear which correspond to the "weight" of the lowest order of the coarse reading. The present authors discuss several methods for the coordination of reading for the case when the fine readings are connected with the coarse ones through a scale converter of the measured angle incorporating a so-called free-playless electrical reducer. The study covers 1) the arithmetic code reading coordination using the method of double reading line; 2) the method of coarse reading value

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L 5179-66   EWT(d)/EWP(v)/EWP k)/EWP(h)/EWP(1)   IJP(c)   GS/DC

ACCESSION NR: AT5021844

AUTHOR: Korotkov, S. V.; Pivovarov, V. T.; Tarasenko, Ye. V.; Shumskaya, M. K.

UR/0000/65/000/000/0160/0167

48
β+1

TITLE: A study of mixed systems of automatic control by means of digital integrators

SOURCE: AN SSSR. Institut elektromekhaniki. Avtomatizirovannyy elektroprivod; sledya-shchiye sistemy, upravleniye i preobrazovatel'nyye ustroystva (Automated electric drive; tracking systems, control and converter devices). Moscow, Izd-vo Nauka, 1965, 160-167

TOPIC TAGS: Automatic control system, digital integrator, digital system, automatic control design, servosystem

ABSTRACT: Mixed slave systems are now used for the realization of high Q-factor in automatic control systems. The present authors investigate such a mixed system consisting of a power and a correcting section. The power section controls the rate of change of coordinates whereas the correcting section consists of a coordinate digital slave system. Detailed theoretical and experimental investigations show that 1) the digital integrator can generate the $\sin \omega t$ and $\cos \omega t$ functions with widely varying amplitudes and frequencies; 2) mixed systems with double motors have lower demands imposed on their components; 3) under certain circumstances the two parts of the combined systems may be viewed as independent and the total error of the power section may be used as the equivalent control

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L 5222-66
ACC NR: AP5025451

reduce the number of necessary machines and personnel, will extend the life of machines by providing properly constructed interchangeable parts, and will lower the cost of jobs to which it is applied. Orig. art. has: 1 photograph.

SUB CODE: IE/   SUBM DATE: none

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L 48018-65   EWT(d)/EEC-2/EWP(1)   Pq-4/Pg-4/Pk-4/PI-4   IJP(c)   BB/GG

S/0115/65/000/001/0020/0023

ACCESSION NR: AP5008334

AUTHOR: Korotkov, S. V.; Maksimov, Y. P.; Myasnikov, T. A.

TITLE: Some principles for constructing precision angle-to-digit converters

SOURCE: Izmeritel'naya tekhnika, no. 1, 1965, 20-23

TOPIC TAGS: angle digit converter

ABSTRACT: The reasons why it is impossible to construct a single-reading angle-to-digit converter whose resolution would correspond to 19—20 binary digits are reviewed. A two-reading (coarse and fine) converter is considered which is based on a multipole phase shifter; two types of the latter — photoelectric with a highest multiplying ratio, and capacitive with design advantages — were investigated. These types have the important advantage of averaging the errors: the error of phase measurement is much lower than the error made in marking the discrete scale segments. As the fine-reading counter must have a short transient time, the logical-carry-type counter is recommended for this application. Orig. art. has: 3 figures and 7 formulas.

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